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10/724,604

- 12/02/2003

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EXAMINER

LAI, ANNE VIET NGA

ART UNIT

PAPER NUMBER

2636

DATE MAILED: 11/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|---------------------------------|--|
| Office Action Summary | Application No. 10/724,604 | Applicant(s) INOUE, MASAHIRO | |
| | Examiner Anne V. Lai | Art Unit 2636 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 5-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 5, the "second timer" is indefinite because there is no "first timer".

In claim 6, the "second switch control unit" is indefinite because there is no "first switch control unit".

In claim 7, the "third timer" is indefinite because the "second timer" is indefinite.

In claims 8, 9 and 10, the "third power switch" is indefinite because there is no "second power switch".

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by **O'Tool** [US. 6,130,602] or **Sano** [US.5,682,603].

In claim 1, **O'Tool** discloses an on-vehicle short-range communication apparatus for toll collection (col. 114, lines 5-67) comprising (figs. 3-5): a power switch 36 (wake

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up timer and logic; fig. 5) inserted in a power supply line extending between the battery 18 (figs. 3-4) and the radio /data processing unit (16; figs. 3-5) for power saving purpose (col. 43, lines 10-12; claim 1). **Sano** discloses an on-vehicle short-range communication apparatus for toll collection comprising a power saving switch 14 inserted in a power supply line 12 extending between a vehicle mounted battery and a radio /data processing unit (16, 18) for power saving purpose (figs. 2-3B; col. 5, lines 40-58).

5. In claims 2, **O'Tool** discloses the power switch is timer-controlled where power is provided for intermittently (periodically) switching the apparatus from a sleep mode to a receiver-on mode (col. 43, line 10 through col. 44, line 45; claim 1).

6. In claim 3, **O'Tool** discloses a switch control unit (to operate the logic of steps a, b and c of claim 1) in association with the timer for controlling the power switch to change over between a continuous power supply mode (microprocessor-on mode for communication with the on-road radio) and the intermittently driving mode (sleeping and wake up to detect signal from the on-road radio) (col. 43, line 10 through col. 44, line 45; claims 1, 6).

7. In claim 4, **O'Tool** discloses further the apparatus comprising: an electric field intensity detecting circuit (determine if there is a radio frequency present; col. 43, lines 23-32); and an activating circuit for activating the power switch when the electric field intensity detected is higher than a predetermined level (providing more power; switching from receiver-on mode to processor-on mode; col. 43 line 52 – col. 44 line 45; claims 3, 6, 13). **Sano** discloses further an electric field intensity detecting circuit and an

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activating circuit for activate the power switch when electric field intensity is detected higher than a predetermined level (20, fig. 3B; col. 6, lines 30-51).

In claim 11, **O'Tool** discloses the apparatus further comprise a voltage lowering detection unit and generating a low battery signal if the voltage of the battery is lower than a predetermined voltage (col. 21, line 46- col. 22, line 4).

8. Claim 15 is rejected under 35 U.S.C. 102(b) as being anticipated by **O'Tool** or **Sano** [US.5,682,603] or **Tanaka** [US.6,011,483] or **Kawashima** [US. 5,495,233].

In claim 15, **O'Tool** (figs. 3-5), **Sano** (14, fig. 3B), **Tanaka** (2, drawing) or **Kawashima** (14; fig.2) discloses an apparatus comprising a power saving switch inserted in a power supply line extending between a battery and a radio and data processing unit for power saving purpose.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over **O'Tool** (or **Sano**) in view of **Froschermeier** [US. 5,525,992] or **Tanaka** [US. 6,011,483].

In claims 8 and 9, **O'Tool** fails to disclose a manual switch to turn on/off the power supply from the battery, however a transponder having both automatic and manual switches are well known; **Froschermeier** teaches an on-vehicle DSRC

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transponder 14 (figs. 1-2) comprising a timer controlled switch 78 (fig. 5) providing power to wake up the transponder (activate the digital ASIC 34; col. 8, line 57- col. 9 line 8) for battery saving purpose and further comprising another power switch for manually overriding the power saving feature (col. 11, lines 62-67); **Tanake** teaches a short range communication ID card comprising a battery and a plurality of switches (mechanic or electronic) being operationally controlled for battery saving purpose; in addition, a manual switch is also included to manually turn off power supply from battery (drawing; col. 4, lines 6-28). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to implement a manual control switch as suggested by **Froschermeier** or **Tanake** to **O'Tool's** for the convenient of user to override at will the power saving feature.

11. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over **O'Tool** (or **Sano**) and **Froschermeier** (or **Tanaka**) in view of **Burgess** [US. 6,031,465].

In claim 10, **O'Tool** fails to disclose a vibration detecting switch control unit for turning on/off the other power switch. **Burgess** teaches an on-vehicle DSRC apparatus with power saving feature comprising a vibration detecting switch control unit to power on/off when the vibration is at a predetermined level (col. 5, lines 21-51). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to implement the vibration detecting switch control unit to the apparatus of **O'Tool et al** to provide addition power saving to the battery of the apparatus.

12. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over **O'Tool** (or **Sano**) in view of **Burgess**.

In claims 12 and 13, **O'Tool** fails to disclose a solar battery and an external power source; **Burgess** teaches an on-vehicle DSRC apparatus with power saving further comprising solar cell 121 (external power source) connected to the battery 120 for charging the battery (fig. 2); connector to external power source is inherent, whether the connector is on the battery or on the external power source. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to implement the solar battery or external power source connection to the apparatus of **O'Tool** to provide power backup to the apparatus when main battery power is low, therefore increase communication reliability.

13. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over **O'Tool** (or **Sano**) in view of **Bickley** [US. 5,430,441].

In claim 14, **O'Tool** fails to disclose a connector to allow the battery to be removable. **Bickley** teaches a transponder for vehicle identification (col. 1, line 32) comprising a connector structured to allow the battery to be removable (48, 50, figs. 3-4; col. 5, lines 41-53), although the connector is shown on the transponder structure however for supplying power to the transponder, a connector or a contact must also be presented on the battery side. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to implement a connecting structure for the battery as taught by **Bickley** to **O'Tool** apparatus as designer choice to provide a transponder that can be use as passive or as active transponder based on user preference.

Response to Arguments

14. Applicant's arguments filed 8/4/2005 have been fully considered but they are not persuasive.

a) In response to applicant argument that O Tool's does not teach the first power switch of claims 1 and the first timer of claim 2.

O Tool's figure 3 shows a battery 18 connected to IC 16 and figure 5 shows the IC 16 comprising a wake up timer and logic 36 inserted between the power supply line and the radio transceiver with microcontroller and data processing unit. O Tool's in column 43, lines 23-28, discloses the wake up timer and logic 36 intermittently activate the receiver 30 and its data circuit by providing power to the receiver's circuit, therefore this wake up operation is operation of a power switch.

b) In response to applicant argument that Froschermeier does not show a battery provide power to the DSRC apparatus and no indication of a third power switch is on an output side of the battery.

Froschermeier's battery is stated in the abstract, power saving operation is in figure 5 and column 8 lines 57 – col. 9, line 8, and manual button switch to override the power saving feature is in col. 11, lines 62-67; the manual button switch is clearly not the automatic timer controlled switch 78 and should be at the output side of the battery for the user be able to press on. A reference of Tanaka is added which shows both electronic and manual power switches connected to the battery, therefore the use of both switches are known and cannot be considered a new invention.

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c) In response to applicant argument about the vibration detecting switch control unit. It is an error by the examiner in citing the claim numbers and references; the reference of O' Tool is used to reject claim 11 instead of claim 10, and the reference of Burgess is used to reject claim 10. Correction is made in this office action.

d) With regard to claim 12, the reference of Tuttle is withdrawn and replaced by Burgess in this office action.

e) With regard to claim 14, Bickley discloses connector structured to allow the battery to be removable is shown in figs. 3-4 and in col. 5, lines 41-53.

15. This office action makes corrections for some errors in the previous office action and is non-final.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Krasner (fig. 1C) [US. 6,133,871]; Lambropoulos [US. 5,838,257]; Kephart [US. 4,950,913]; Toko [US. 5,140,698]; Maru [4,977,611].

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne V. Lai whose telephone number is 571-272-2974. The examiner can normally be reached on 9:00 am to 6:30 pm, Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hofsass Jeffery can be reached on 571-272-2981. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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